

CLAIMS

1. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing
5 rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining
10 member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with
15 a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

said through hole is bored between tooth edges of said
20 reel gear.

2. The magnetic tape cartridge as set forth in claim 1, wherein a recess engageable with a tooth edge of said driving gear is formed in a distal end surface of said releasing member which abuts said driving gear.

25 3. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound

thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

said pushing-up portion and said through hole contact each other through small protrusions which reduce the contact area.

4. The magnetic tape cartridge as set forth in claim 1, 2, or 3, wherein the opposite tooth edges of said reel gear between which said through hole is bored are removed so that they become flat shapes, curved surface shapes, or chamfered surface shapes.

5. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation

when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

said releasing member is formed by sheet-metal pressing of a metal sheet.

6. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a

chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

said reel is provided with a guide member which guides part of said releasing member in an inserting direction when inserting the pushing-up portion of said releasing member into said through hole.

7. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear

through a through hole provided in said reel gear; and

the pushing-up portion of said releasing member is provided near each vertex of a generally triangular plate base.

8. The magnetic tape cartridge as set forth in claim
5 7, wherein the plate base of said releasing member is formed integrally with said pushing-up portion with high-rigidity resin material, while a sliding-contact portion, formed with a separate member having a low friction characteristic, is rigidly attached integrally to a center portion of an upper surface of said base
10 which contacts a center portion of a lower surface of said restraining member.

9. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing
15 rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining
20 member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with
25 a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is

provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

gate traces for injection molding are provided near centers of rotation of said restraining member and said releasing member.

10. The magnetic tape cartridge as set forth in claim 9, wherein, in the releasing member which has the pushing-up portion and is formed by injection molding, such a bore which reduces a wall thickness of said pushing-up portion is formed in the interior of said pushing-up portion.

11. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear

through a through hole provided in said reel gear; and

said reel gear is driven to rotate in mesh with a driving gear in which a tooth edge portion thereof is formed into a curved surface.

5 12. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

10 said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by
15 rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

 said reel is provided with a reel gear which meshes a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is
20 provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

a tooth edge portion of said reel gear is formed into a curved surface.

 13. A magnetic tape cartridge, for rotatably housing
25 within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing

rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

said reel is formed by molding a metal reel plate on a bottom surface thereof by insert molding, and said reel is molded by a metal mold in which a hold member for holding an inner peripheral surface of said reel plate is disposed on an outer periphery of a gate.

14. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or

away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

said reel is formed by molding a metal reel plate on the inner peripheral side of said reel gear by insert molding, and said reel is molded by a metal mold provided with a means of preventing interference between a gear-portion metal mold for molding said reel gear and said reel plate.

15. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a

chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said-driving gear through a through hole provided in said reel gear; and

said reel is formed by molding a metal reel plate by insert molding, and said reel is also formed so that outside the outer peripheral surface of said reel plate, a clearance in the form of a circumferential groove is formed between said outer peripheral surface and a bottom wall of said reel, and so that outside said clearance, said reel gear is formed.

16. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with a driving gear of said drive-side rotation drive means, and a

pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

said reel is formed by molding a metal reel plate by insert molding, and said reel is also formed so that a reinforcement rib is formed on a surface of said reel plate which contacts a bottom wall of said reel.

17. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

said reel is formed by molding a metal reel plate by insert molding, and said reel is also formed so that a recess is

formed in a bottom wall of said reel which said reel plate contacts.

18. A magnetic tape cartridge, for rotatably housing within a cartridge case a single reel having magnetic tape wound thereon, comprising reel-rotation restraining means for allowing rotation of said reel when being used and restricting said rotation when not being used; wherein

said reel-rotation restraining means has a restraining member for restricting rotation of said reel by moving toward or away from said reel, an urging member for urging said restraining member in a restraining direction, and a releasing member for moving said restraining member in a releasing direction, by rotating integrally with said reel and moving according to a chucking operation of drive-side rotation drive means;

said reel is provided with a reel gear which meshes with a driving gear of said drive-side rotation drive means, and a pushing-up portion formed in part of said releasing member is provided so that a distal end thereof can abut said driving gear through a through hole provided in said reel gear; and

said reel is formed by joining a reel hub and an upper flange portion by adhesion, and said reel is formed so that said upper flange portion is provided with a collar portion which fits onto an inner peripheral surface of said reel hub, an annular protruding portion is formed between said collar portion and a surface of said upper flange portion, and so that an end surface of said annular protruding portion and an outer peripheral surface of said collar portion are adhered to said reel hub as adhesion

surfaces.